INEEL Intelligence

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A high-level monthly briefing on operations and activities at the U.S. Department of Energy's Idaho National Engineering and Environmental Laboratory – Home of Science and Engineering Solutions. Work at the lab advances the Department's strategic goals in the areas of energy, environment, defense and science.

■ ENERGY – Magic Valley Wind Energizes Burley Farm

After studying wind power, a Magic Valley man's dream of having all the electricity he can use – has come true. With help from INEEL electrical engineers who monitored wind speed data over a year's time, Burley farmer LeRoy Jarolimek was able to collect the technical data he needed to receive a U.S. Department of Agriculture grant to help install a 20-kilowatt wind turbine on his farm. Through the Department of Energy's Wind Powering America Program, the INEEL can help potential wind energy developers install wind anemometers where the feasibility and cost effectiveness of installing a wind turbine is most promising. All the data the INEEL collects becomes public information.

■ ENVIRONMENT – Agency Upgrades Aquifer Protection System

As part of the Department of Energy's ongoing efforts to protect the Snake River Plain Aquifer, two new vapor vacuum extraction units have been installed into a groundwater protection system at the agency's Radioactive Waste Management Complex, and new wells have been added to the system. The new systems can remove and destroy as much as three times the amount of the volatile organic compounds as the older system could each week. The new extraction units pull harmful vapors from solvents buried beneath the ground surface and destroys them before they can contaminate groundwater. The vapor vacuum extraction system has successfully removed and treated nearly 170,000 pounds of volatile organic compounds since the program began in January 1996.

■ DEFENSE – Robots Test Security Sensors

The INEEL is working with the Department of Energy's Remote Sensing Laboratory in Las Vegas to develop robotic software and systems to test sophisticated sensors needed to protect the homeland. These sensors obtain valuable information during unexpected radiological emergencies and security crises, and are critical to the nation's security. As the number and complexity of sensors increases, so does the requirement to identify their limitations and validate their special features. Using the INEEL's adaptive robotic control architecture, laboratory researchers can accurately test, record and evaluate radiation and heat source detection sensors and vision systems under controlled conditions. The speed and precision of the INEEL's mobile robotic test platform make it possible to easily calibrate sensors, replicate tests and save operating time and expense.

■ SCIENCE – INEEL Researcher Receives International Honor

The INEEL's Steve Herring was selected as the recipient of the American Nuclear Society (ANS) 2004 Mishima Award at the group's annual meeting this month in Pittsburgh. Recipients qualify for this award based on meritorious scientific and engineering achievements that have important implications to the science and technologies of nuclear fuels and materials development. Herring was recognized for his work on light water reactor fuels that destroy plutonium and other long-lived radioactive elements. "This award is a great reflection on Steve as well as the INEEL," said James A. Lake, Associate Laboratory Director for Nuclear Energy and former ANS president. "It demonstrates not only his hard work and dedication, but also the positive direction we are heading in the nuclear energy field."

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